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REMARKS

Claims 1-24 are currently pending in the subject application. Claims 1 and 3-8 are presently under consideration. A marked up version of all pending claims is found at pages 2-6 of this Reply. Claims 1, 9, and 21 have been amended herein.

Applicants' representative notes with appreciation the Examiner's indication that the subject matter of claim 3 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims from which it depends. Applicant's representative respectfully reserves the right to do so at a later date if necessary. However, such amendments are not believed necessary at present in view of the comments and amendments herein. Specifically, claim 1 has been amended herein to overcome the rejection thereto, and is now believed to be in condition for allowance. Furthermore, withdrawn independent claims 9 and 21 have been amended herein to include aspects similar to claim 1. Therefore, independent claims 9 and 21 (and claims 10, 11, 13-20, and 22-24, which depend there from) are also now believed to be in condition for allowance. Rejoinder of these claims is respectfully requested as a matter of right.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Rejection of Claims 1, 4, and 7 Under 35 U.S.C. §103(a)**

Claims 1, 4, and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Tahara *et al.* and Kubo *et al.* Withdrawal of this rejection is respectfully requested for at least the following reasons. Neither the admitted prior art, nor Tahara *et al.*, nor Kubo *et al.*, alone or in combination, teach or suggest every element of applicants' invention as set forth in the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to



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combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The present invention generally relates to semiconductor devices and, more particularly, relates to electrostatic protection devices for integrated circuits. Independent claim 1 has been amended herein to recite, "...*the reverse breakdown voltage of the at least one diode is determined by the equation  $V_{CC} + C < B_{VR} < B_{VOX}$  where  $V_{CC}$  is the supply voltage,  $C$  is a predetermined voltage with an absolute value of at least 0.1 volts,  $B_{VOX}$  is the breakdown voltage of the gate oxide layer and  $B_{VR}$  is the reverse breakdown voltage of the at least one diode.*" The subject claimed invention teaches utilizing at least one diode with a reverse break down voltage *less* than the break down voltage of the gate oxide layer of a CMOS device. Therefore when an undesirable electrostatic discharge occurs, the diode will conduct in the reverse break down region, thus preventing undesirable current from flowing through the CMOS device. Damage to the CMOS device is therefore avoided. Furthermore, the subject claims recite that the *reverse breakdown voltage of the diode is greater than the supply voltage by a constant, non-zero amount.* The amendments to the claims are fully supported by the specification. For example, "The diode 52 has an adjusted reverse breakdown voltage that lies between the voltage of the supply  $V_{CC}$  and the breakdown voltage of the gate oxide layers 47 and 49 in the transistors 46 and 48. For example, the reverse breakdown voltage  $B_{VR}$  of the diode 52 can be governed by the following equation:  $V_{CC} + 2V < B_{VR} < B_{VOX}$  where  $V_{CC}$  is the supply voltage and  $B_{VOX}$  is the breakdown voltage of the gate oxide layers of the transistors of input circuit 45." (Page 6, line 29-Page 7, line 2.) Thus, the specification as filed describes a constant non-zero voltage by which  $B_{VR}$  can exceed  $V_{CC}$ .

In contrast, the admitted prior art teaches the use of a *diode with a reverse break down voltage greater than the break down voltage of the gate oxide layer of a CMOS device.* Specifically, the admitted prior art does not teach or suggest that the at least one protection



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diode has a reverse breakdown voltage that is less than the breakdown voltage of the gate oxide layer, let alone at least one protection diode that has a reverse breakdown voltage that is less than the breakdown voltage of the gate oxide layer by a constant, predetermined, non-zero voltage. Therefore, the admitted prior art fails to teach or suggest the present invention as set forth in independent claim 1.

Tahara *et al.* fails to overcome the deficiencies of the admitted prior art with respect to independent claim 1. Specifically, Tahara *et al.* does not teach or suggest that the reverse breakdown voltage of the at least one diode is determined by the equation  $V_{CC} + C < B_{VR} < B_{VOX}$ , where  $V_{CC}$  is the supply voltage,  $C$  is a constant nonzero voltage with an absolute value of at least 0.1 volts,  $B_{VOX}$  is the breakdown voltage of the gate oxide layer and  $B_{VR}$  is the reverse breakdown voltage of the at least one diode.

Likewise, Kudo *et al.* does not make up for the deficiencies *vis a vis* admitted prior art and Tahara *et al.* Specifically, Kubo *et al.* does not teach that the reverse breakdown voltage of the at least one diode is determined by the equation  $V_{CC} + C < B_{VR} < B_{VOX}$ , where  $V_{CC}$  is the supply voltage,  $C$  is a constant voltage with an absolute value of at least 0.1 volts,  $B_{VOX}$  is the breakdown voltage of the gate oxide layer and  $B_{VR}$  is the reverse breakdown voltage of the at least one diode.

In view of at least the above, it is readily apparent that independent claim 1, and claims 3-8, which depend there from, are not made obvious by the cited references. Therefore, this rejection should be withdrawn.

## II. Rejection of Claims 5, 6, and 8 Under 35 U.S.C. §103(a)

Claims 5, 6, and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the admitted prior art in view of Tahara *et al.* and Kubo *et al.* as applied to claim 1 above, and further in view of Ito *et al.* This rejection should be withdrawn for at least the following reasons. Claims 5, 6, and 8, depend from amended independent claim 1, which is believed to be in condition for allowance in view of the foregoing comments and amendments. Ito *et al.* does not make up for the aforementioned deficiencies of the admitted prior art, Tahara *et al.*, and Kubo *et al.* with respect to claim 1. Accordingly, withdrawal of the subject rejection is respectfully requested.



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**III. CONCLUSION**

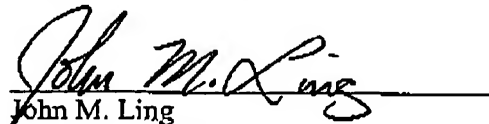
The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,

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